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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/627,828	07/25/2003	Ronald D. Blum	63049.000092	3770
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27682 7590 09/07/2004

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EXAMINER

SCHWARTZ, JORDAN MARC

ART UNIT

PAPER NUMBER

2873

DATE MAILED: 09/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/627,828

Applicant(s)

BLUM ET AL.

Examiner

Jordan M. Schwartz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 6/18/04 (Election).
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-93 is/are pending in the application.
- 4a) Of the above claim(s) 1-83 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 84-93 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 8/9/04, 7/7/04, 2/13/04
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: foreign reference

**DETAILED ACTION*****Election/Restrictions***

Applicant's election with traverse of Group IVb, claims 84-93 in the Election received June 18, 2004 is acknowledged. The traversal is on the ground(s) that the claims of the designated groups have not necessarily acquired a separate status in the art and that the search of the entire application can be made without a serious burden on the examiner. This is not found persuasive. Specifically, applicant has claims directed to such diverse subject matter as optical lens systems, spectacle lenses, methods of producing spectacle lenses and electro-active lenses. The examiner believes that each has acquired a separate status in the art as shown by their different classification. Furthermore, as stated in the restriction, the search required for any one group is not required for any other group. The examiner further believes that it would be serious burden on the examiner to search and examine all of the claims of the application together since a search for any one group is not required for a search of any other group.

The requirement is still deemed proper and is therefore made FINAL.

***Information Disclosure Statement***

The information disclosure statement filed February 13, 2004 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. Specifically, the examiner could not find a copy of the three foreign references crossed out on the

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IDS either within this application or the parent application and therefore these three references have been crossed out and have not been considered.

The information disclosure statement filed in this case fails to comply with 37 CFR § 1.56(b), which states that information is material to patentability which is **NOT CUMULATIVE** to information...being made of record in the application. Specifically, applicant has cited thirteen pages of references for consideration and additionally has cited an entire magazine (Eye Care Business) without setting forth relevant pages within. The examiner believes that the thick stack of references for consideration is largely cumulative and, therefore, based upon the large number of references cited, the initialed references have been considered in a cumulative manner.

### ***Specification***

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Rejections - 35 USC § 112***

Claims 84 and 91 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claims 84 and 91, that part of the claim stating "an alignment layer" renders the claim vague and indefinite. It is not clear how this layer is "aligned" to be considered as an "alignment layer" as distinguished from

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any other lens layer or what the layer is aligning and the lack of clarity renders the claims vague and indefinite. Reading the claims in light of the specification, in paragraph 120, applicant discusses aligning the electro-optic layer to accommodate the astigmatic axis and in paragraphs 209-210 of the specification, applicant discusses electro-active layers that use liquid crystal and are birefringent and discusses aligning layers such that electro-active molecules are either aligned latitudinally or longitudinally. It is therefore not clear if applicant is using the term "alignment layer" to mean in terms of the astigmatic axis, if applicant means using liquid crystals and aligning electro-active molecules either latitudinally or longitudinally or if some other meaning is intended and the lack of clarity renders the claims vague and indefinite.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 84 and 89-93 are rejected under 35 U.S.C. 102(b) as being anticipated by Kern patent number 4,601,545.

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Kern reads on these claims by disclosing the limitations therein including the following: an electro-active lens (abstract, column 3, lines 37 and 57); an electro-active material of a substantial constant thickness (column 3, lines 37 and 57, Figure 3 re the "substantial constant thickness"); at least one alignment layer (to the extent this term is understood, column 4, line 6); a plurality of conductive electrodes grids or arrays (column 3, lines 23-29, Figures 1-2 and 5); each grid or array element as an electrode (Figures 1-2 and 5, column 3, lines 23-29); the grids or arrays as substantially circular and concentric with respect to one another (Figure 5c embodiment); the electro-active material containing a liquid crystal (column 3, line 57); the grid or array of electrodes in electrical contact with at least one layer of electro-active material (column 3, lines 50-60); the optical power of the lens is varied by altering an applied voltage from a power source to individual electrodes of the grid or array (abstract, column 2, lines 21-28, column 3, lines 9-60, column 5, line 47 to column 6, line 21); the electro-active material causing a change in the refractive index of the electro-active material (column 4, line 10, column 6, lines 1-11). It is believed that the change in refractive index would be at least 0.02 units per volt, this being reasonably based upon Kern disclosing the voltage of .1 to 20 volts and producing a lens power of from -20 to +20 diopters (column 5, line 66 to column 6, line 11).

Claims 84-88 and 90-93 are rejected under 35 U.S.C. 102(e) as being anticipated by Birdwell patent number 6,774,871.

Birdwell reads on these claims by disclosing the limitations therein including the following: an electro-active lens (abstract, column 8, lines 7-16,

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column 11, line 39); an electro-active material of a substantial constant thickness (column 11, line 39 and Figure 4B and 5A re “54” and “70” of “substantial constant thickness”); at least one alignment layer (to the extent this term is understood, column 13, line 12); a plurality of conductive electrodes grids or arrays (column 13, line 10, figures 4B and 5A); each grid or array element as an electrode (column 13, line 10, figures 4B and 5A); the electrodes isolated from each other by an insulating material of silicon oxide (column 16, lines 36-40). The insulating material will inherently be transparent, this being reasonably based upon Birdwell disclosing this material as silicon oxide, similar to that of the claimed invention. Birdwell further discloses the electro-active material containing a liquid crystal (column 11, line 39); the grid or array of electrodes in electrical contact with at least one layer of electro-active material (Figures 4B and 5A, column 11, lines 20-67); the optical power of the lens is varied by altering an applied voltage from a power source to individual electrodes of the grid or array (column 11, lines 20-67, column 12, lines 25-39); the electro-active material causing a change in the refractive index of the electro-active material (column 11, line 58 to column 12, line 61). It is believed that the change in refractive index would be at least 0.02 units per volt, this being reasonably based upon Birdwell disclosing the changing index of refraction producing the profiles of Figures 4A, 4C and 4D (column 12, lines 25-61), as well as being based upon the similarity in structure to that of the claimed invention.

***Claim Rejections - 35 USC § 103***



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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 85-88 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kern in view of Birdwell.

In reference to these claims, Kern discloses as is set forth above but does not specifically disclose the electrodes isolated from each other by an isolating material, specifically silicon oxide. Birdwell teaches that in an electro-active lens having a liquid crystal material and a plurality of electrode grids or arrays, that it is desirable to have the electrode grids or arrays insulated by an insulating material, specifically silicon oxide, for the purpose of properly insulating the electrodes to provide the required electrical connections (column 16, lines 36-53). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the electro-active lens of Kern as further having an insulating material, specifically silicon oxide to isolate the electrodes from each other for the purpose of properly insulating the electrodes to provide the required electrical connections. As stated above, the use of silicon oxide would inherently be a substantially transparent material.

#### ***Prior Art Citations***

Yamada et al patent number 5,894,363, Horn patent number 5,412,439, Ichikawa et al patent number 6,339,459, Piosenka et al patent number



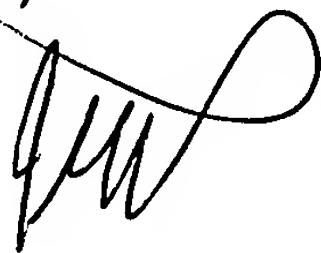
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5,359,444, and Japanese document number 62-209412 are being cited herein to show electro-active lenses that would either read on or make obvious a number of the above rejected claims, however, such rejections would have been repetitive.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jordan M. Schwartz whose telephone number is (571) 272-2337. The examiner can normally be reached on Monday to Friday (8:00-5:30), alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y. Epps can be reached at (571) 272-2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'JMS', with a large loop at the end.

Jordan M. Schwartz  
Primary Examiner

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September 1, 2004